

Amendment dated January 19, 2010

Reply to Office Action of May 14, 2009

REMARKS/ARGUMENTS

Claims 1, 6, 8, 11-12, 16, and 20-26 are pending. By this Amendment, claims 1, 8, 12, and 16 are amended, and claims 2-3, 9-10, 13-15, and 27-29 are canceled without prejudice or disclaimer. No new matter is added. Support for the claims can be found throughout the specification, including the original claims, and the drawings. Reconsideration in view of the above amendments and following remarks is respectfully requested.

The Office Action rejected claims 3, 13, and 16 under 35 U.S.C. §112, second paragraph, as allegedly being indefinite. Claim 3 has been canceled, and thus, the rejection of claim 3 is moot. Claim 16 has been amended to address the Examiner's comments. The rejection is respectfully traversed with respect to claim 13.

Regarding the Examiner's comments, referring, for example, to the exemplary embodiment shown in Figure 12, both the front radiation gas burners 541 and the rear radiation gas burners 542 are in the front and rear burner housing 531, 532. Accordingly, the rejection of dependent claim 13 under 35 U.S.C. §112, second paragraph, should be withdrawn.

The Office Action rejected claims 1, 6, 8-13, 16, and 20-29 under 35 U.S.C. §102(b) as being anticipated by Morse, U.S. Patent No. 3,633,562, and claims 2-3 and 14-15 under 35 U.S.C. §103(a) as being unpatentable over Morse, in view of Schultheis et al. (hereinafter "Schultheis"), U.S. Patent No. 6,230,701. Claims 2-3, 9-10, 13-15, and 27-29 have been canceled. These rejections are respectively traversed in so far as they apply to the pending claims.

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Independent claim 1 recites, *inter alia*, an exhaust duct that includes a first exhaust duct in communication with the front burner housing, and a second exhaust duct formed inside of, and separate from, the first exhaust duct in communication with the rear burner housings, wherein two sets of each of the front and rear burner housings, and the front and rear radiation gas burners are provided, wherein the exhaust duct is arranged at a central part of the housing to pass between the front radiation gas burners and between the rear radiation gas burners, wherein a partition wall is provided at a central part of each of the exhaust ducts, that divides each of the first and second ducts exhaust into two parts, and wherein the front and rear burner housings comprise front inlets and rear inlets at one side part of the front and rear burner housings, respectively, and the exhaust duct is arranged at lower parts of the front inlets and the rear inlets.

Independent claim 8 recites, *inter alia*, a first exhaust duct in lower parts of, and that passes through spaces between the front burner housings and between the rear burner housings in communication with the front burner housings, that discharges exhaust gas from the front radiation burners toward the exhaust openings; a second exhaust duct formed inside of, and separate from, the first exhaust duct in communication with the rear burner housings; a first partition wall at a central part of the first exhaust duct, that divides the first exhaust duct into two parts, one of which communicates with the front burner housing on a left side, and the other one of which communicates with the front burner housing on a right side, and a second partition wall at a central part of the second exhaust duct, that divides the second exhaust duct into two parts, one of which communicates with the rear burner housing on a left side, and the

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other one of which communicates with the rear burner housing on a right side wherein the two front burner housings and two rear burner housings comprise front inlets and rear inlets at one side part of the two front burner housings and two rear burner housings, respectively, and the first exhaust duct and second exhaust duct are arranged at lower parts of the front inlets and the rear inlets.

Independent claim 12 recites, *inter alia*, a central exhaust duct in communication with the front burner housing, that guides exhaust gas from the front radiation gas burners to the exhaust openings, wherein the central exhaust duct is formed by the front burner housing, and two rear exhaust ducts in communication with the rear burner housings, respectively, that discharge exhaust gas from the front radiation gas burners and the rear radiation gas burners toward the exhaust openings, wherein the front and rear burner housings comprise front inlets and rear inlets at one side part of the two front and rear burner housings, respectively, and the central exhaust duct is arranged at lower parts of the front inlets and the rear inlets.

Morse does not disclose or suggest such features of independent claims 1, 8, and 12, or the respective claimed combinations.

That is, Morse discloses a slightly pressurized flat-top stove. Morse discloses a blower 60 that delivers a sufficient volume of air to chamber 31, which is formed between shell 14 and plate 30, to maintain a slightly pressurized condition therein. Each of hot gas chambers 43 has a gas outlet duct 50 which terminates beneath grill 26, a top gas outlet opening 52, and an end wall 54 which deflects the gas upwardly through the grill 26. Hence, when a burner unit 4, 6, 8, 10 is

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operating, hot gases are discharged through opening 52, and there is sufficient jet effect to cause a circulation of fresh air at grill 26. The circulation of the air through the shell 14 prevents excessive heating of the walls of the burner units 4, 6, 8, 10.

The Examiner corresponds the gas outlet duct 50 to the claimed first exhaust duct, the chamber 31 to the claimed second exhaust duct, and the end wall 54 to the claimed partition wall. However, the gas outlet ducts 50 are not arranged at a central part of the shell 14 to pass between the burner units 4, 6 and burner units 6, 10. Further, the end wall 54 is not at a central part of each of the first and second exhaust ducts and does not divide each of the first and second exhaust ducts into two parts. Thus, Morse does not disclose or suggest an exhaust duct arranged at a central part of the housing to pass between the front radiation gas burners and between the rear radiation gas burners; a partition wall at a central part of each of the first and second exhaust ducts, that divides each of the first and second ducts exhaust into two parts; or wherein the front and rear burner housings comprise front inlets and rear inlets at one side part of the front and rear burner housings, respectively, and the exhaust duct is arranged at lower parts of the front inlets and the rear inlets, as recited in independent claim 1. Further, Morse does not disclose or suggest a first partition wall at a central part of the first exhaust duct, that divides the first exhaust duct into two parts, one of which communicates with the front burner housing on a left side, and the other one of which communicates with the front burner housing on a right side; a second partition wall at a central part of the second exhaust duct, that divides the second exhaust duct into two parts, one of which communicates with the rear burner

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housing on a left side, and the other one of which communicates with the rear burner housing on a right side; or wherein the two front burner housings and two rear burner housings comprise front inlets and rear inlets at one side part of the two front burner housings and two rear burner housings, respectively, and the first exhaust duct and second exhaust duct are arranged at lower parts of the front inlets and the rear inlets, as recited in independent claim 8. Additionally, Morse does not disclose or suggest a central exhaust duct in communication with the front burner housing, that guides exhaust gas from the front radiation gas burners to the exhaust openings, wherein the central exhaust duct is formed by the front burner housing, or wherein the front and rear burner housings comprise front inlets and rear inlets at one side part of the two front and rear burner housings, respectively, and the central exhaust duct is arranged at lower parts of the front inlets and the rear inlets, as recited in independent claim 12.

Further, as set forth above, the Examiner argued that elements 54, 50, and 31 of Morse (disclosed by Morse as an end wall, a rectangular gas outlet duct, and a closed chamber) correspond to the claimed partition wall, first exhaust duct, and second exhaust duct. However, as discussed, the end wall 54 does not divide the shell 14 and is not arranged in a center of the burner unit housing, but at one side of the burner unit housing.

Also, each of the hot gas chambers 43 has the rectangular gas outlet duct 50 that terminates beneath grill 26, the top gas outlet opening 52, and the end wall 54 that deflects gas upwardly through the grill 26. When the burner units 2, 4, 6, 8 are operating, hot gases are discharged through the opening 52 to reduce the temperature of the air passing upwardly from

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the grill 26. Thus, with Morse, a main technical feature is the circulation of the air through shell 14 to prevent excessive heating of the walls of the burner units. In contrast, the claimed partition wall at a central part of the exhaust ducts, divides each of the exhaust ducts into two parts.

Further, the claimed front and rear burner housings comprise front inlets and rear inlets at one side part of the front and rear burner housings, respectively, and the exhaust duct is arranged at lower parts of the front inlets and rear inlets. Neither Morse nor Shultheis disclose or suggest such features. Rather, Morse discloses the hot gas chamber 43 and outlet duct 50 while Shultheis discloses a burner module or chamber 1 and exhaust duct 16. However, both Morse and Shultheis have the problem that high temperature exhaust gas stays in the range due to the concealed structure of the radiation gas burners which impedes natural discharge of the exhaust gas and acts as a thermal load, impeding smooth supply of external air to an inside of the radiation gas burners, and resulting in failure of proper combustion.

Moreover, Shultheis fails to overcome the deficiencies of Morse, as Shultheis merely discloses an exhaust duct component 10 containing sheet-metal buffers 10a that prevent interference between individual burners.

For at least these reasons, independent claims 1, 8, and 12, define over the applied prior art. Dependent claims 6, 11, 16, and 20-26 define over the applied prior art at least for the reasons discussed above with respect to independent claims 1, 8, and 12 from which they respectively depend, as well as for their added features.

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Docket No. **K-0717**

CONCLUSION

In view of the foregoing amendments and remarks, it is respectfully submitted that the application is in condition for allowance. Favorable consideration and prompt allowance are earnestly solicited.

If the Examiner believes that any additional changes would place the application in better condition for allowance, the Examiner is invited to contact the undersigned attorney at the telephone number listed below.

To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this, concurrent and future replies, including extension of time fees, to Deposit Account 16-0607 and please credit any excess fees to such deposit account.

Respectfully submitted,
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